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**United States Patent** [19]

Ziemek et al.

[11] **Patent Number:** 5,143,897[45] **Date of Patent:** Sep. 1, 1992[54] **FLEXIBLE, HIGH TEMPERATURE  
SUPERCONDUCTIVE CABLES**[75] **Inventors:** Gerhard B. Ziemek, Langenhagen,  
Fed. Rep. of Germany; Lzyaslav G.  
Peshkov, Moskau, U.S.S.R.; Grigorij  
Svalov, Moskau, U.S.S.R.; Victor E.  
Sytnikov, Moskau, U.S.S.R.; Valerij  
A. Mitrochin, Moskau, U.S.S.R.[73] **Assignee:** Kabelmetal Electro GmbH, Hanover,  
Fed. Rep. of Germany[21] **Appl. No.:** 653,894[22] **Filed:** Feb. 12, 1991[30] **Foreign Application Priority Data**

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[51] **Int. Cl.<sup>5</sup>** ..... H01L 38/24[52] **U.S. Cl.** ..... 505/1; 29/599;  
228/151; 228/155; 228/173.4; 228/173.5[58] **Field of Search** ..... 29/599; 505/1, 917,  
505/921, 928, 929, 930; 228/147, 151, 155,  
173.5, 173.4[56] **References Cited****U.S. PATENT DOCUMENTS**

3,077,661	2/1963	Fromson	228/155 X
3,783,503	1/1974	Diepers et al.	505/928 X
3,873,799	3/1975	Scheffler et al.	28/599 X
4,397,081	8/1983	Ziemek et al.	29/599
4,447,946	5/1984	Marancik	505/921 X

*Primary Examiner*—Joseph M. Gorski*Attorney, Agent, or Firm*—James C. Jangarathis[57] **ABSTRACT**

Method of manufacturing a flexible, high temperature superconductive cable by longitudinally imbedding a ceramic oxide material in a band source material, and then compressing same to form an elongated flat band, which in turn is deformed into a hollow tubular member whose longitudinal edges are welded before such member is corrugated. Further, there is disclosed a flexible, high temperature superconductive cable including a corrugated metallic wall having imbedded therein at least one superconductor of ceramic oxide material extending continuously therethrough.

**6 Claims, 2 Drawing Sheets**